

Docket No. 56510US002

DECLARATION, POWER OF ATTORNEY, AND PETITION

I, a below named inventor, depose and say that: (1) my residence, citizenship, and mailing address are indicated below; (2) I have reviewed and understand the contents of attached specification, including the claims, as amended by any amendment specifically referred to herein, (3) I believe that the other below named inventors and I are the original, first, and joint inventors or discoverers of the invention or discovery in

USE OF FINITE ELEMENT ANALYSIS FOR ORTHODONTIC MECHANICS AND APPLIANCE SELECTION

described and claimed therein and for which a patent is sought; and (4) I hereby acknowledge my duty to disclose to the Patent and Trademark Office all information known to me to be material to the patentability as defined in Title 37, Code of Federal Regulations, §1.56.*

I hereby appoint Gregory D. Allen (Reg. No. 35,048), Alan Ball (Reg. No. 42,286), Scott A. Bardell (Reg. No. 39,594), Carolyn A. Bates (Reg. No. 27,853), Bruce Black (Reg. No. 41,622), Colene E. H. Blank (Reg. No. 41,056), Jennie G. Boeder (Reg. No. 28,952), William J. Bond (Reg. No. 32,400), Arthur J. Brady (Reg. No. 42,356), Stephen W. Buckingham (Reg. No. 30,035), John A. Burtis (Reg. No. 39,924), Melissa E. Buss (Reg. No. 47,465), Gerald F. Chernivec (Reg. No. 26,537), James D. Christoff (Reg. No. 31,492), Philip Y. Dahl (Reg. No. 36,115), Janice L. Dowdall (Reg. No. 31,201), Lisa M. Fagan (Reg. No. 40,601), Carolyn A. Fischer (Reg. No. 39,091), Yen T. Florczak (Reg. No. 45,163), Darla P. Fonseca (Reg. No. 31,783), Melanie G. Gover (Reg. No. 41,793), Christopher D. Gram, (Reg. No. 43,643), Gary L. Griswold (Reg. No. 25,396), Doreen S. L. Gwin (Reg. No. 35,580), Michael A. Hakamaki (Reg. No. 40,011), Karl G. Hanson (Reg. No. 32,900), Dean M. Harts (Reg. No. 47,634), Néstor P. Ho (Reg. No. 39,460), Rudolph P. Hofmann, Jr. (Reg. No. 38,187), Robert W. Hoke (Reg. No. 29,226), MarySusan Howard (Reg. No. 38,729), Stephen C. Jensen (Reg. No. 35,207), Robert H. Jordan (Reg. No. 31,973), Harold C. Knecht III (Reg. No. 35,576), Kent S. Kokko (Reg. No. 33,931), Douglas B. Little (Reg. No. 28,439), Eloise J. Maki (Reg. No. 33,418), Matthew B. McNutt (Reg. No. 39,766), Michelle M. Michel (Reg. No. 33,968), William D. Miller (Reg. No. 37,988), Peter L. Olson (Reg. No. 35,308), Daniel R. Pastirik (Reg. No. 33,025), David B. Patchett (Reg. No. 39,326), Robert J. Pechman (Reg. No. 45,002), Carolyn V. Peters (Reg. No. 33,271), Scott R. Pribnow (Reg. No. 43,869), Ted K. Ringsred (Reg. No. 35,658), Steven E. Skolnick (Reg. No. 33,789), Robert W. Sprague (Reg. No. 30,497), Brian E. Szymanski (Reg. No. 39,523), James J. Trussell (Reg. No. 37,251), Lucy C. Weiss (Reg. No. 32,834), Bradford B. Wright (Reg. No. 34,459), and Kimberly S. Zillig (Reg. No. 46,346) my attorneys and/or agents with full powers (including the powers of appointment, substitution, and revocation) to prosecute this application and any division, continuation, continuation-in-part, reexamination, or reissue thereof, and to transact all business in the Patent and Trademark Office connected therewith; the mailing address and the telephone number of the above-mentioned attorneys and/or agents are

Attention: James D. Christoff
Office of Intellectual Property Counsel
3M Innovative Properties Company
P.O. Box 33427
St. Paul, Minnesota 55133-3427
Telephone No. 651/733-1512

The undersigned petitioner declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Wherefore, I pray for grant of Letters Patent for the invention or discovery described and claimed in the attached specification and we hereby subscribe our names to the foregoing specification and claims, declaration, power of attorney, and this petition, on the day set forth below.

Ming-Lai Lai 9/25/04
Ming-Lai Lai Date
Residence: Arcadia, California USA
Citizenship: Republic of China
Post Office P.O. Box 33427
Address: St. Paul, Minnesota 55133-3427

*Title 37, Code of Federal Regulations, §1.56 is attached.

This form may be executed only when attached to the specification (including claims) as the last page thereof.

Docket No. 56510US002



Andrew W. Chen

Date

Residence: Woodbury, Minnesota USA

Citizenship: United States

Post Office P.O. Box 33427

Address: St. Paul, Minnesota 55133-3427

Docket No. 56510US002

§1.56 Duty to disclose information material to patentability.

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is cancelled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§ 1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

- (1) prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

- (1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or
- (2) It refutes, or is inconsistent with, a position the applicant takes in:
 - (i) Opposing an argument of unpatentability relied on by the Office, or
 - (ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

- (1) Each inventor named in the application;
- (2) Each attorney or agent who prepares or prosecutes the application; and
- (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.



UNITED STATES
PATENT AND
TRADEMARK OFFICE

5650145002

DECEMBER 31, 2001

Chief Financial Officer and Chief Administrative Officer
Washington, DC 20231
www.uspto.gov

3M INNOVATIVE PROPERTIES COMPANY

PTAS OFFICE OF INTELLECTUAL

JAMES D. CHRISTOFF

PROPERTY COUNSEL

3M INNOVATIVE PROPERTIES COMPANY

OFFICE OF INTELLECTUAL PROPERTY COUNSEL

P.O. BOX 33427

JAN 7 2002

ST. PAUL, MINNESOTA 55133-3427

101882194A

UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 09/26/2001

REEL/FRAME: 012264/0575
NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

LAI, MING-LAI

DOC DATE: 09/25/2001

ASSIGNOR:

CHEN, ANDREW W.

DOC DATE: 09/26/2001

ASSIGNEE:

3M INNOVATIVE PROPERTIES COMPANY

P.O. BOX 33427

ST. PAUL, MINNESOTA 55133-3427

SERIAL NUMBER: 09965707

FILING DATE: 09/26/2001

PATENT NUMBER:

ISSUE DATE:

SHARON LATIMER, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

10-23-2001



Docket No. 56510US002

101882194
PATENTS ONLY

ET

3879 S. PTO
09/26/01

To: The Honorable Commissioner of Patents and Trademarks
Please record the attached original document(s) or copy thereof.

1. Name of conveying party(ies)/(Execution Date)

Ming-Lai Lai September 25, 2001
Andrew W. Chen September 26, 2001

Name and address of receiving party(ies)

3M Innovative Properties Company
P.O. Box 33427
St. Paul, Minnesota 55133-3427

Additional names of conveying party(ies) attached?

☐ Yes ☒ No

3. Nature of Conveyance:

☒ Assignment ☐ Merger
☐ Security Agreement ☐ Change of Name
☐ Other: ☐ If this is a request for correction of a
previously recorded document, a copy of the previously recorded assignment and
previous Notice of Recordation is enclosed.

Additional names of receiving party(ies) attached?

☐ Yes ☒ No

4. Application number or patent number:

☒ This document is being filed with a new patent application on: September 26, 2001
☐ This document is to be recorded against the following patent application or patent: _____
☐ Patent Cooperation Treaty (PCT):
Enter PCT application number only if a U.S. Application Number has not been assigned: _____

09965707

Additional Numbers Attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: James D. Christoff
Office of Intellectual Property Counsel
3M Innovative Properties Company
P.O. Box 33427
St. Paul, Minnesota 55133-3427

Phone Number: 651/733-1512

6. Total number of applications and patents involved:

1

7. Total fee (37 CFR 3.41)

\$40.00

☐ Enclosed
☒ Authorized to be charged to deposit account

8. Deposit Account Number: 13-3723

DO NOT USE THIS SPACE

9. Statement and Signature

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Charges to deposit account are authorized, as indicated herein.

James D. Christoff
Printed Name of Attorney/Agent
Registration No. 31,492

Signature

September 26, 2001
Date

Pages: Total number of pages including COVER SHEET, attachments and documents:

3

Mail documents to be recorded with required cover sheet information to:
Commissioner for Patents, Box Assignments, Washington, DC 20231

Docket No. 56510US002

ASSIGNMENT

Whereas we, the below named inventors, with residences and citizenships as indicated below; have made an invention in

USE OF FINITE ELEMENT ANALYSIS FOR ORTHODONTIC MECHANICS AND APPLIANCE SELECTION

and have contemporaneously executed an application for Letters Patent of the United States of America based thereon;

Now, therefore, for good and valuable consideration, receipt of which is acknowledged, we have individually and jointly agreed to assign and transfer and do hereby assign and transfer unto the 3M INNOVATIVE PROPERTIES COMPANY, a wholly owned subsidiary of MINNESOTA MINING AND MANUFACTURING COMPANY, and a corporation of Delaware, having its principal office at Saint Paul, Minnesota, its successors and assigns, the entire right, title, and interest in and to the said invention and application, and in and to any division or continuation (in whole or in part) of said application, and in and to any and all improvements in the said invention made by us or any of us or made jointly with others (provided any such improvement is made during, or within one year after the termination of, the employment by Minnesota Mining and Manufacturing Company and any of its existing or future subsidiaries of whichever of us, solely or jointly with one or more others, has made the same), and in and to any and all Letters Patent, reexaminations, reissues, or extensions thereof, of the United States of America and countries foreign thereto (including the right to apply for Letters Patent, Utility Models, or Inventors' Certificates in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), which have been or may be granted thereon or on any divisional, continuation (in whole or in part), renewal, reexamination, reissue, or other or further application based in whole or in part upon the said invention or improvements thereon, to be held and enjoyed as fully and exclusively as they would have been by us or any of us had this assignment and transfer not been made,

We do further agree for ourselves and for our heirs, executors, and administrators, to execute and deliver without further consideration any further applications, assignments, and documents, and to perform such other acts as we lawfully may, that may be deemed necessary by the said Company, its successors, assigns, and nominees, fully to secure its right, title, and interest as aforesaid and to obtain or maintain Letters Patent, Utility Models, or Inventors' Certificates in any and all countries;

And we do hereby authorize and request the Commissioner of Patents to issue any and all Letters Patent which may be granted upon any of the said applications, to the said 3M Innovative Properties Company, as the assignee of the entire right, title, and interest therein.

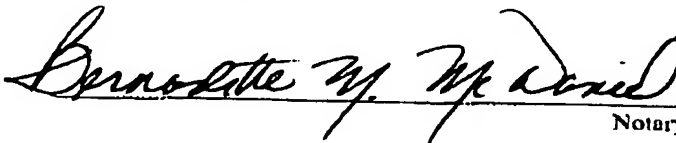


Ming-Lai Lai
Residence: Arcadia, California USA
Citizenship: Republic of China

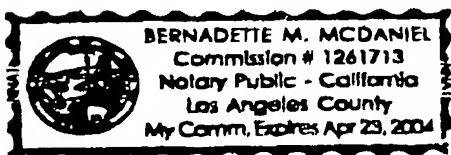
STATE OF CALIFORNIA)
) ss.
COUNTY OF LOS ANGELES)

On this 25th day of September, 2001, before me personally appeared the above-named Ming-Lai Lai, personally known by me, and known by me to be the person described in and who executed the foregoing instrument, and who acknowledged that said person executed the same as said person's free act and deed, on the day and year aforesaid.

(Seal)



Notary Public



Docket No. 56510US002



Andrew W. Chen

Residence: Woodbury, Minnesota USA

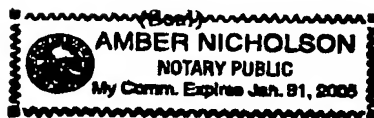
Citizenship: United States

STATE OF MINNESOTA)

) ss.

COUNTY OF RAMSEY

On this 26th day of September, 2001, before me personally appeared the above-named Andrew W. Chen, personally known by me, and known by me to be the person described in and who executed the foregoing instrument, and who acknowledged that said person executed the same as said person's free act and deed, on the day and year aforesaid.



Notary Public